09-26-05

OIPE
SEP 28 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant	:	Hongchang Bao
U.S. Serial No.	:	09/674,583
Filed	:	February 5, 2001
For	:	DEVICE AND METHOD FOR PATTERN RECOGNITION AND PROVIDING MEDIUM
Examiner	:	Michael N. Opasnick.
Group Art Unit	:	2655
Confirmation No.	:	1517

745 Fifth Avenue
New York, NY 10151

EXPRESS MAIL

Mailing Label Number: EV 723366865 US

Date of Deposit: September 23, 2005

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" Service under 37 CFR 1.10 on the date indicated above and is addressed to: **Mail Stop Appeal Briefs-Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Charles Jackson
(Typed or printed name of person mailing paper or fee)

Charles Jackson
(Signature of person mailing paper or fee)

APPEAL BRIEF OF APPELLANT

Mail Stop Appeal Briefs-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450.

09/27/2005 BABRAHA1 00000103 09674583
01 FC:1402   500.00 OP

Sir:

This is an Appeal from the Office Action issued by the Examiner dated April 28, 2005, in

the above-identified application, rejecting claims 1-8. A Notice of Appeal was filed on July 26,

00310620

2005. This Brief is submitted in accordance with 37 C.F.R. §41.37. The Commissioner is

authorized to charge any additional fee, or credit any overpayment for this paper, to Deposit

Account No. 50-0320.

1.   <u>REAL PARTY IN INTEREST</u>

The real party in interest is Sony Corporation, a Japanese Corporation, having a place of

business at 7-35 Kitashinagawa 6-Chome Shingawa-ku, Tokyo 141-0001, Japan. The

assignment of this application is recorded in the United States Patent and Trademark office at

Reel 01505; Frame 0311.

2.   <u>RELATED APPEALS AND INTERFERENCES</u>

Upon information and belief, the undersigned attorney does not believe that there is any

appeal or interference that will directly affect, be directly affected by or have a bearing on the

Board's decision in the pending appeal.

3.   <u>STATUS OF THE CLAIMS</u>

The Application was filed with claims 1-7 on February 5, 2001, and assigned Application

Serial No. 09/674,583. This application claims the benefit of PCT Application Serial No.

PCT/JP00/01282 filed March 3, 2000 and Japanese Application No. 11-057467 filed March 4,

1999.

The Examiner issued an Office Action on April 9, 2004. In the Office Action, the

Examiner rejected claims 1-7 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No.

6,188,982 to Chiang in view of U.S. Patent No. 5,778,342 to Erell et al.

In response to the Office Action Appellant submitted a response on July, 9 2004 arguing

the patentably distinct features of the application over the combination of the cited references.

The Examiner then issued a Final Office Action on September 9, 2004. In the Office Action, the Examiner maintained the earlier rejections of claims 1-7 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,188,982 to Chiang in view of U.S. Patent No. 5,778,342 to Erell et al.

A response to the Final Office Action was filed by Appellant on December 10, 2004 traversing the Examiner's rejections of the claims.

The Examiner issued an Advisory Action on February 10, 2005, maintaining the rejections recited in the Final Office Action.

A Request for Continued Examination (RCE) was filed on March 21, 2005, along with a preliminary amendment adding new claim 8 and traversing the Examiner's standing rejection of claims 1-7 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,188,982 to Chiang in view of U.S. Patent No. 5,778,342 to Erell et al.

The Examiner issued an Office Action on April 28, 2005. In the Office Action, the Examiner rejected claims 1-8 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,188,982 to Chiang in view of U.S. Patent No. 5,778,342 to Erell et al.

A Notice of Appeal was filed by Appellant on July 26, 2005, from which this Appeal Brief is being filed.

Accordingly, the status of the claims may be summarized as follows:

Claims Allowed: None.
Claims Rejected: 1-8.
Claims Appealed: 1-8.

The rejected claims 1-8 are set forth in the Appendix attached hereto.

Appellant are appeals the Final Rejection of claims 1-8, which constitute all of the currently pending claims in this application.

U.S. Appln. No. 09/674,583
Appellant Appeal Brief

PATENT
450108-02391

4. STATUS OF THE AMENDMENTS

Appellant believes that all the submitted Amendments have been entered.

5. SUMMARY OF THE CLAIMED SUBJECT MATTER

The citations to Figures and Specification locations are provided immediately following elements of independent claim 1, which is summarized below. However, such citations are provided merely as examples and are not intended to limit the interpretation of the claims or to evidence or create any estoppel.

Claim 1, one of three independent claims in the instant application at issue in this appeal, is directed to a pattern recognition device for classifying the feature distribution of input data into any of the stated number of models. The device includes extracting means (Fig. 1; elements 3 and 5) for extracting the pattern of the input data as the feature distribution, storing means for storing the stated number of models (Fig. 1; element 6), classifying means (Fig. 3; element 12) for classifying the feature distribution that has been extracted by the extracting means into any of the stated number of models (Fig. 4; element 21), and generating means (Fig. 3; element 13) for generating the model that corresponds to such a state that the data do not exist (Fig. 4; element 21), on the basis of the noise that has been input at the time just preceding the inputting of the data, and for updating that which is corresponding to it and is stored in the storing means(Fig. 1; element 6).

6. ISSUE

Whether claims 1-8 are unpatentable over U.S. Patent No. 6,188,982 to Chiang in view of U.S. Patent No. 5,778,342 to Erell et al.

7. GROUPING OF THE CLAIMS

Claims 1-8 stand or fall together.

U.S. Appln. No. 09/674,583
Appellant Appeal Brief

PATENT
450108-02391

8. ARGUMENTS

Claims 1-8 were improperly rejected as being unpatentable under 35 U.S.C. §103(a).

None of the cited references, either alone or in combination, teach, suggest or motivate a skilled

artisan to practice the instant invention.

1. The Instant Invention is NOT Obvious and The Examiner's has Failed to Establish *prima facia* Obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met. First,

there must be some suggestion or motivation to modify the reference or to combine reference

teachings either in the references themselves or in the general knowledge available to one of

ordinary skill in the art; second, there must be a reasonable expectation of success; third, the

prior art reference or references must teach or suggest all the claim limitations. M.PE.P. § 2143.

It is, however, impermissible for the Examiner to use hindsight based on an Appellant's

disclosure to determine that an Appellant's claimed invention is obvious in view if the cited art.

M.P.E.P. § 2142. The motivation or teaching to make the claimed combination by modifying or

combining prior art references must be found in the prior art and not in the Appellant's

disclosure. *In re Vaeck*, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Throughout prosecution of this application Appellant has argued that the references cited

by, and combined by, the Examiner actually teach away from the instant invention. The

Examiner has countered that in his opinion the references cited do not teach away from their

combination. However, in coming to this conclusion, it is respectfully submitted that the

Examiner has ignored the first two elements of substantiating a rejection under 35 U.S.C. §

103(a), namely (1) "to provide some suggestion of the **desirability** of doing what the inventor

has done," and (2) demonstrating that "there must be a reasonable **expectation of success**."

MPEP § 706.02(j) (emphasis added). Because of these deficiencies in the rejection, Appellant

respectfully requests the Board to withdraw the Examiner's rejections.

Claim 1 of the instant application recites in part:

> generating means for generating said model that corresponds to such a state that said data do not exist, **on the basis of the noise that has been input at the time just preceding the inputting of said data**, and for updating that which is corresponding to it and is stored in said storing means. (Emphasis added.)

The Examiner has admitted that, "Chiang does not disclose extracting noise from input

just preceding the input of speech data." The Examiner then suggests that, because Erell does

allegedly contain such a teaching, it would have been obvious to one of skill in the art to

combine the teachings of Chiang and Erell. It is respectfully submitted that such a combination

would not have been obvious to one of skill in the art.

Indeed, Chiang expressly teaches away from the suggested combination. Col. 4, lns. 2-5.

of Chiang state that "[t]he **advantages** of this on-line PMC method over the conventional PMC

method lies mainly in its **avoidance of the need to collect the background noise in advance**."

Thus, in this single sentence, Chiang teaches that it would be **undesirable** to have to collect

background noise **in advance** of other pattern recognizing steps, as recited in the claims of the

instant application.

Chiang further states:

> [a]s is evident in actual applications, noise changes with time so that the conventional PMC method cannot be used to process speech in a nonstationary environment. This is true since there can be a significant difference between the background noise previously colleted and the background noise in the actual environment. For this reason, the **conventional PMC is inadequate** for processing noises in a nonstationary state.

(Chiang, Col. 3, lns. 53-60) (emphasis added). Accordingly, Chiang teaches that convention PMC, which requires collecting background noise in advance, to recognize data patterns, is inferior and should not be used and that the teachings of Chiang provide superior means for achieving noise processing, or that **there would not be a reasonable expectation of success**. Because of this stated inferiority, one of skill in the art reading Chiang would not, contrary to the Examiner's assertion, look to combine the teachings of Chiang with a system of noise sampling, prior to transmission.

Accordingly, because the two of the "basic criteria" of obviousness have not been, and cannot be established, the Examiner has failed to present a *prima facie* case of obviousness. Further, it is respectfully submitted that because Chiang specifically teaches away from the combination applied by the Examiner, such a combination cannot be the basis of a rejection under 35 U.S.C § 103(a).

2. Obvious to Try is NOT the Standard

Further, the Federal Circuit was very clear that "obvious to try" is not the standard upon which an obviousness rejection should be based. *In re Fine*, 5 U.S.P.Q.2d 1596, 1599-60 (Fed. Cir. 1998). And as "obvious to try" would be the only standard that would lend the Section 103 rejection any viability, the rejection must fail as a matter of law.
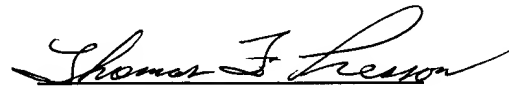
For at least the foregoing reasons, it is respectfully submitted that independent claims 1, 7, and 8 patentably distinguish over the combination of the relied upon portions Chiang and Erell, which fail to render claims 1-8 unpatentable under 35 U.S.C. §103(a), and therefore independent claims 1, 7 and 8 are allowable. Further, claims 2-6 that depend from claim 1 are allowable therewith.

U.S. Appln. No. 09/674,583
Appellant Appeal Brief

PATENT
450108-02391

CONCLUSION

For the reasons discussed above, claims 1-8 are patentable. It is, therefore, respectfully

submitted that the Examiner erred in rejecting claims 1-8, and a reversal by the Board is

solicited.

Respectfully submitted,
FROMMER LAWRENCE & HAUG LLP

By: _____

Thomas F. Presson
Reg. No. 41,442
Tel. (212) 588-0800
Fax (212) 588-0500

U.S. Appln. No. 09/674,583
Appellant Appeal Brief

PATENT
450108-02391

APPENDIX I

CLAIMS ON APPEAL

1.   (Original) A pattern recognizing device for classifying the feature distribution of input data into any of the stated number of models, comprising:

extracting means for extracting the pattern of said input data as the feature distribution;

storing means for storing said stated number of models;

classifying means for classifying the feature distribution that has been extracted by said extracting means into any of said stated number of models; and

generating means for generating said model that corresponds to such a state that said data do not exist, on the basis of the noise that has been input at the time just preceding the inputting of said data, and for updating that which is corresponding to it and is stored in said storing means.

2.   (Original) The pattern recognizing device of claim 1, wherein in the case where the feature distribution of such a state that said data do not exist, and the probability distribution of said model that corresponds to such a state that said data do not exist are normal distribution, said generating means generate the expected value of said model that corresponds to such a state that said data do not exist, as the mean of the expected values that correspond to the respective components of the feature distribution of such a state that said data do not exist, and generate the variance of said model that corresponds to such a state that said data do not exist, as the mean of the variances that correspond to the respective components of the feature distribution of such a state that said data do not exist.

3.   (Original) The pattern recognizing device of claim 1, wherein   in the case

where the feature distribution of such a state that said data do not exist, and the probability

distribution of said model that corresponds to such a state that said data do not exist are normal

distribution, said generating means generate the expected value and the variance of said model

that corresponds to such a state that said data do not exist, by the use of the man of the expected

values that correspond to the respective components of the feature distribution of such a state

that said data do not exist.

4.   (Original) The pattern recognizing device of claim 1, wherein in the case where

the feature distribution of such a state that said data do not exist, and the probability distribution

of said model that corresponds to such a state that said data do not exist are normal distribution,

said generating means generate the probability distribution of said model that corresponds to

such a state that said data do not exist, on the basis of the linear combination of the statistics that

correspond to the respective components of the feature distribution of such a state that said data

do not exist.

5.   (Original) The pattern recognizing device of claim 1, wherein in the case where

the feature distribution of such a state that said data do not exist, and the probability distribution

of said model that corresponds to such a state that said data do not exist are normal distribution,

said generating means generate the probability distribution of said model that corresponds to

such a state that said data do not exist, on the basis of the sum of the statistical populations that

correspond to the respective components of the feature distribution of such a state that said data

do not exist.

00310620

6.   (Original) A pattern recognizing method of a pattern recognizing device for

classifying the feature distribution of input data into any of the stated number of models, said

method comprises:

an extracting step of extracting the pattern of said input data as the feature distribution;

a storing step of storing said stated number of models;

a classifying step of classifying the feature distribution that has been extracted on

said extracted step into any of said storing number of models; and

a generating step of generating said model that corresponds to such a state that

said data do not exist, on the basis of the noise that has been input at the time just preceding the

inputting of said data, and then updating the corresponding one that has been stored on said

storing step.

7.   (Original) A providing medium for providing a program to a pattern recognizing

device for classifying the feature distribution of input data into any of the stated number of

models, said program can be read by a computer which causes the pattern recognizing device to

execute the processing that includes an extracting step of extracting the pattern of said input data

as the feature distribution, a storing step of storing said stated number of models, a classifying

step of classifying the feature distribution that has been extracted on said extracting step into any

of said stated number of models, and a generating step of generating said model that corresponds

to such a state that said data do not exist, on the basis of the noise that has been input at the time

just preceding the inputting of said data, and then updating the corresponding one that has been

stored on said storing step.

8.   (Previously Presented) A pattern recognition device comprising:

a transmission means;

an extraction means for extracting one or more data patterns from a first transmission signal including at least one data pattern of noise and one data pattern of speech;

a storage means for storing a number of data pattern models including at least one of noise and one of speech;

a classifying means for classifying the extracted data pattern as one of the stored data models,

an updating means for updating the stored data pattern models, with extracted data patterns; and

a generating means for generating a second transmission signal having the noise removed,

wherein, said extraction means extracts a noise data pattern in a transmission immediately following switching on the transmission means, but prior to the occurrence of a speech data pattern portion of the transmission,

and wherein said extracted noise data pattern and said speech data pattern are utilized to distinguish portions of said first transmission signal and cancel the noise in said first transmission signal to produce said second transmission signal.

U.S. Appln. No. 09/674,583
Appellant Appeal Brief

PATENT
450108-02391

APPENDIX II

EVIDENCE

None

U.S. Appln. No. 09/674,583
Appellant Appeal Brief

PATENT
450108-02391

APPENDIX III

RELATED PROCEEDINGS

None